

Abstract of the Disclosure

An electrostatic discharge protection circuit for an integrated circuit that reduces unwanted transient currents during normal operations. In one embodiment, the electrostatic discharge protection circuit includes one or more electrostatic bus lines, a plurality of signal bonding pads and charge pumps. The one or more electrostatic bus lines are used to direct electrostatic discharge around internal circuitry. The plurality of signal bonding pads are used to receive external voltage signals. Each signal bonding pad is coupled to an associated electrostatic bus line via an unidirectional conducting device. A charge pump is used on each electrostatic bus line to precharge its associated electrostatic bus line to an associated predetermined voltage level. The pre-charging of each electrostatic bus line to its predetermined voltage level reduces transient currents through the unidirectional conducting devices when external voltage signals having voltage levels beyond normal supply voltage ranges are applied to the signal bonding pads.